

Work Order ID 64741

December 14, 2010 1:14:54 PM

Page 1

Item ID: D350-600-241

Accept

Setup Start

Revision ID:

Stop

Item Name: Spacepod, LH, AS350

Start Date: 12/08/10 Start Qty: 1.00

Cust Item ID:

Required Date: 1/07/11 Req'd Qty: 1.00

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

100

0.00

DC

Document Control

Memo

Photocopy bluefile & type labels per PPP D350-600-241
CHG 001

0.00

110

0.00

Small Fab

Small Fab

Memo

PULL FROM STOCK:
1 X D350-600-141 B 43215
REWORK TO MAKE D350-600-241
PER IIN-D350-600 REV.E
SECTION 3.4

0.00

used Gprocast 50-A1 B115154
Hycal 934 B116394
milled Fibers M100859

11 02 05 ①
OK for chg 11/02/08

BT 11-01-18

DART Dart Aerospace Ltd. 1270 ABERDEEN ST. HAWKESBURY, ON, CANADA K6A 1K7				TC APPROVAL # 09-89 TEL: 1-613-632-5200	
P/N	D350-600-141	CHG	CHG002		
DESC.	Spacepod LH	STC	SH93-88		
LOT	B43215	STC	SR00098NY		
MODEL	AS350	STC	SR00099NY		
MADE IN CANADA					
D2729-1					

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	
11.01.18	110	<div>CP11.01.18</div> <div>LOCATE FWD-TOP ^{HINGE} LATCH LOCATION 0.5" LOWER. TO ENSURE 1/5 MIN FORM. REF DS EMAIL</div>				<div>CP</div> <div>11.01.18</div> <div>DS/042</div>		
11-01-18	110	<div>spaced D-350-600-141 in short 1 D 2228 bumper plate</div> <div>D 2228 B <u>48228</u></div>	BT	11-01-18				

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Cust Item ID:

Customer:




Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160  QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00		8/102/01		(X)			
170  HandFinish Hand Finishing	Wing Walk as per dwg QSI005 4.4 Batch 115790 Memo	0.00 0.00				BT		11-02-01	
180  QC Quality Control	QC3- Inspect Part Finish Memo	0.00 0.00		11/02/01		X1			

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Item ID: D350-600-241

Accept



Setup Start



Revision ID:

Item Name: Spacepod, LH, AS350

Stop



Start Date: 12/08/10 Start Qty: 1.00



Cust Item ID:

Required Date: 1/07/11 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
185 Packaging	Pick Kit	0.00							
Packaging	Memo VERIFY KIT TO ENSURE ALL PARTS ARE INCLUDED FOR -241 ENSURE ORIGINAL K10021 KIT IS UP TO DATE	0.00							
190 QC	QC4- 100% Inspect kits for completeness	0.00							
Quality Control	Memo VERIFY KIT TO ENSURE ALL PARTS ARE INCLUDED FOR -241 ENSURE ORIGINAL K10021 KIT IS UP TO DATE	0.00							
200 Packaging	Identify as per dwg & Stock Location: _____	0.00							
Packaging	Memo REPACKAGE PER PPP USING NEW B/N & P/N NEW LABELS & PAPERWORK REQ'D Identify and pack for shipping as per PPP D350-600-141 Location: _____ PPP rev: _____	0.00							

K10021 B66260
350-600-449

59211

ml 11 02 08 ①

Reob

11/2/95

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Item ID: D350-600-241

Accept



Setup Start



Revision ID:

Stop



Item Name: Spacepod, LH, AS350

Start Date: 12/08/10 Start Qty: 1.00



Cust Item ID:

Required Date: 1/07/11 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

210

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

OK 11/02/15

MF
11-02-15

Picklist Print

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Page 1

Work Order ID: 64741

Parent Item: D350-600-241

Parent Item Name: Spacepod, LH, AS350


Start Date: 12/08/10

Required Date: 1/07/11


Start Qty: 1.00

Required Qty: 1.00


Comments: IPP Rev:A 07.03.07 new issue ec
 IPP rev B 07.04.16 reformat,D3188 revE ec IPP Rev:C
 remove D3188-1m add D3188-5 DD 10.04.07 verified by:JLM IPP rev D
 10.04.19 removed hardware at seq 190 duplicated on K10021 EC verified
 by: DD IPP Rev:E remove seq 130/140 now all in seq
 150 DD 10.05.13 verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D350-600-141		Manufactured	No				Each	3.0000		1			
													
Spacepod, LH, AS350													

Location	Loc Qty	Loc Code
FG117	3	
33436	1	
35070	1	
43215	1	

D350-600-249		Manufactured	No				Each	3.0000		1			
													
Spacepod Upgrade													

Location	Loc Qty	Loc Code
FG033	3	
48153	1	
64274	2	

FG-778150-550-ROL		Purchased	No				sf	1,739.150		1			
													
7781 9oz Glass 50"x125yd													

Location	Loc Qty	Loc Code
ST404	1739.15	
108932	18	
111166	397	
113905	1324.15	

3.4 FORWARD OPENING SPACEPOD™ UPGRADE KIT INSTALLATION (D350-600-249)

- 3.4.1 Remove the existing D3186-1/-2 Spacepod™ door by disconnecting the hinges.
- 3.4.2 Remove the following components from the door and pod as shown in Figure 11:
- Remove the D2977/D2978 hinge brackets and D2179 hinge bracket plates from the pod. Reinstall the hardware to fill the holes in the pod. Retain the hinge bracket plates for reinstallation. Discard the hinge brackets.
 - Remove the D2857-1/-2 hinge brackets and the D2228 backing plates and retain for reinstallation. Reinstall the mounting hardware in the aft set of holes only. Discard the remaining mounting hardware.
 - Remove the two forward D2586 latches, D2621 latch plates and D2588 mounting channels along with the D2982-041 prop arm assembly, the D2012-107 clevis assembly and D2429-041 spring clip assembly. Retain one D2586 latch, one D2621 latch plate and one D2588 mounting channel for reinstallation. Discard the other parts and hardware.
 - Remove the SL69-BS ball stud and discard.
 - Optional – remove the D2219 door support bracket by drilling out the rivets. Fill in the pod rivet holes in pod using new rivets.

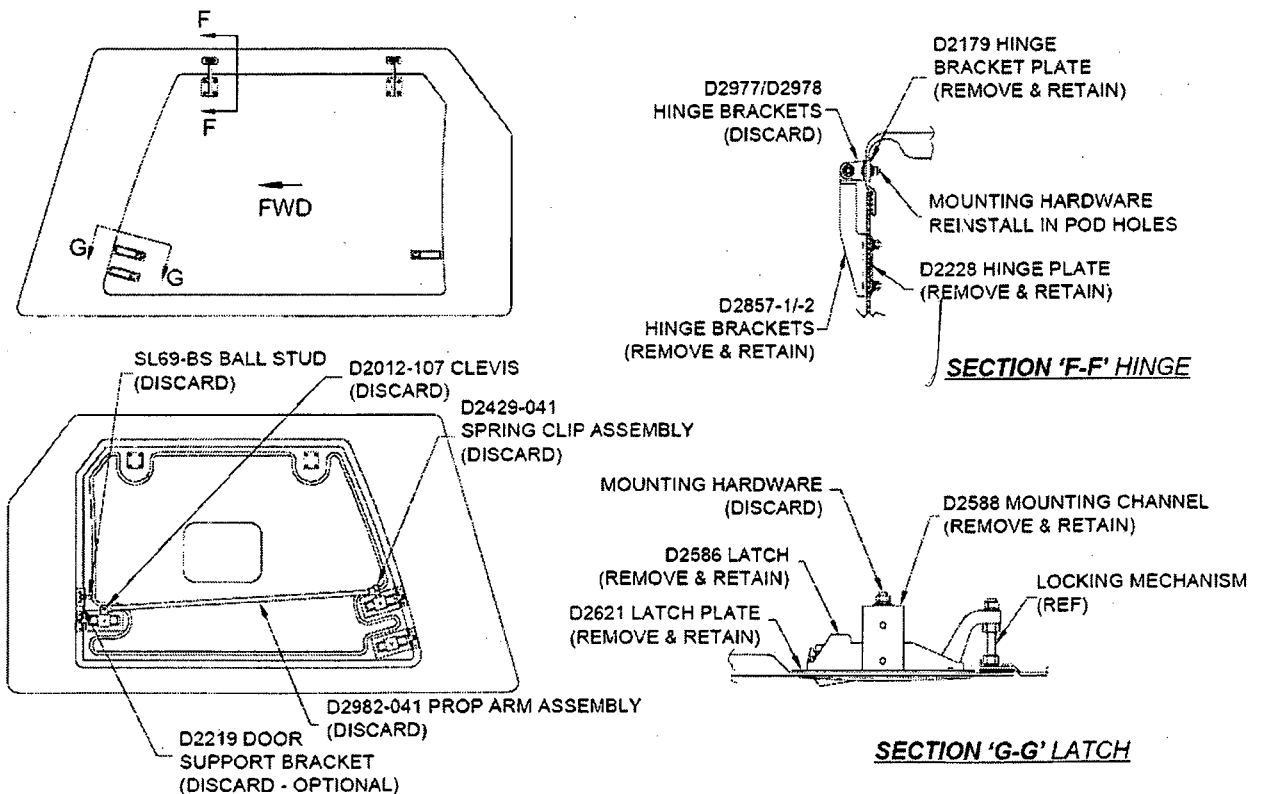


FIGURE 11 – COMPONENT REMOVAL FROM EXISTING SPACEPOD™ KIT
(D350-600-041/-141 KIT SHOWN; -042/-142 OPPOSITE, -043/-143 SIMILAR)

- 3.4.3 Fill each of the two forward latch holes as shown in Figure 12. (Note that it is optional to fill in only the lower latch hole and to leave the latch in the upper latch hole. If this option is chosen, remove the locking mechanism from the latch. Refer to Figure 11).
- Prepare a pre-cured fiberglass plug to fit the hole using alternating 45° layers of cloth. Ensure that the plug has the same thickness and size of the opening.
 - Prepare two plies of 9 oz 7781 glass cloth that will overlap the hole by 0.5". Prepare two plies of 9 oz 7781 glass cloth that will overlap the hole by 1" and that are oriented 45° from the first set of plies. Prepare two plies of 9 oz 7781 glass cloth that will overlap the hole by 1.5" and that are oriented in the same direction as the first set of plies.
 - Prepare the door surface by sanding a minimum of 1.5" from each edge of the hole on both sides of the door to a minimum of 80-grit. Remove the D2464-1250 neoprene seal around the area as needed. Remove dust and grease using a mild solvent. Wipe the solvent before drying. Ensure that all paint, primer and grease are removed.
 - Bond the plug in the opening with Hysol EA9309NA adhesive paste or equivalent.
 - Layer 3 plies of glass cloth on each side of the hole from smallest to largest with Epocast 50-A/9816 or Hysol EA9309NA resin.
 - Apply pressure to both sides of the hole and allow the resin to cure.
 - Smooth the applied area and prime and paint.

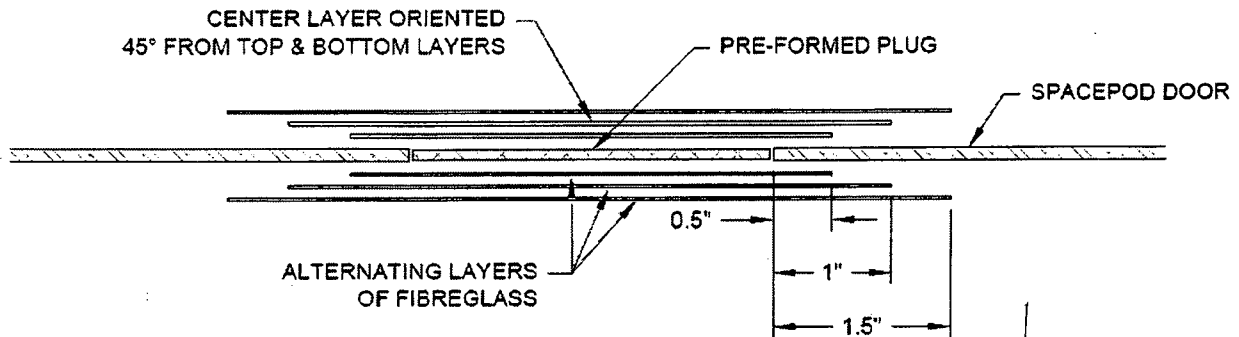


FIGURE 12 – LATCH HOLE REPAIR IN SPACEPOD™ DOOR

- 3.4.4 Prepare the new latch and hinge bracket mounting locations as shown in Figures 13(a) and 13(b):
- Cut away the inner fiberglass layer and the thick foam layer on the Spacepod™ door as shown. Leave a 45° tapered edge along each area.
 - Prepare two plies of 9 oz 7781 glass cloth that will overlap each exposed area by 1" and by 1.5", respectively. Ensure that the two plies are oriented 45° to each other.
 - Prepare the door surface by sanding a minimum of 1.5" from each edge surrounding the exposed areas on the inner surface of the door to a minimum of 80-grit. Remove the D2464-1250 neoprene seal around the area as needed. Remove dust and grease using acetone or equivalent solvent. Wipe the solvent before drying. Ensure that all paint, primer and grease are removed.
 - Layer the two plies of glass cloth on each exposed area from smallest to largest with Hysol EA9309NA or Epocast 50-A/9816 resin.
 - Apply pressure to the area and allow the resin to cure.
 - Smooth the applied area and prime and paint.

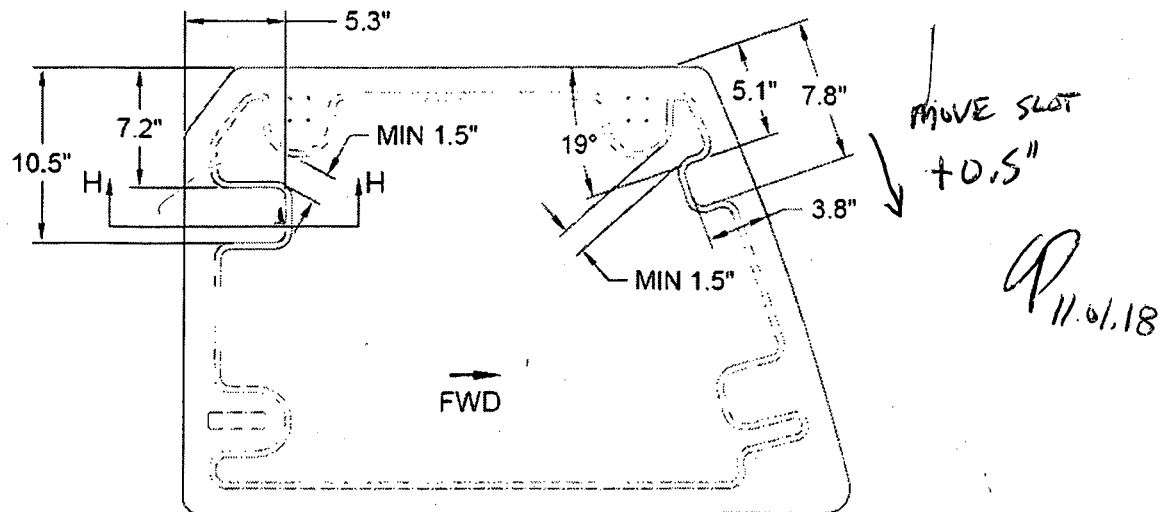


FIGURE 13(a) – D3186-1 SPACEPOD™ DOOR COMPOSITE MODIFICATION
(APPLICABLE FOR -041/-043/-141/-143 KITS)

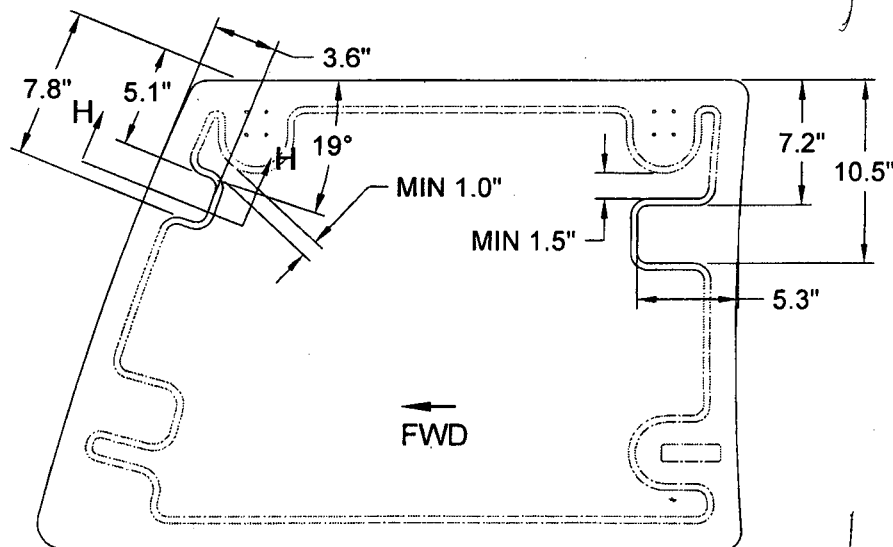
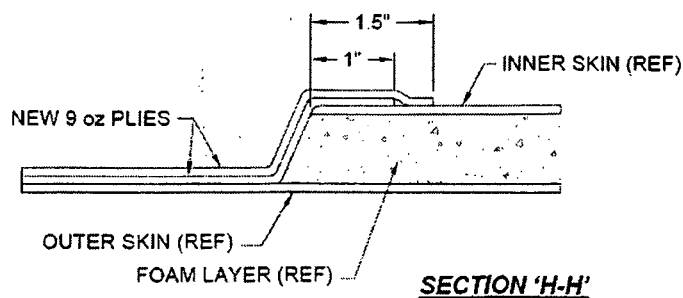


FIGURE 13(b) – D3186-2 SPACEPOD™ DOOR COMPOSITE MODIFICATION
(APPLICABLE FOR -042/-142 KITS)



- 3.4.5 After the paint has dried, apply the D2464-1250 neoprene seal where removed in earlier steps.
- 3.4.6 Cut out the rectangular section shown in Figures 14(a) and 14(b). Install the D2586 latch, D2588 mounting channel and D2621 latch plate that were removed earlier from the door using new hardware as shown in Figure 14(c).

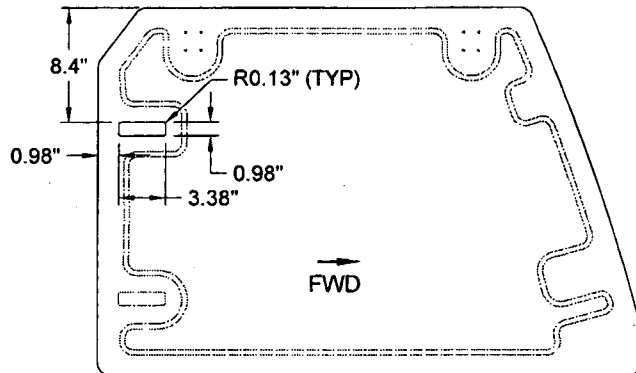


FIGURE 14(a) – D3186-1 SPACEPOD™ DOOR LATCH CUTOUT
(APPLICABLE FOR -041/-043/-141/-143 KITS)

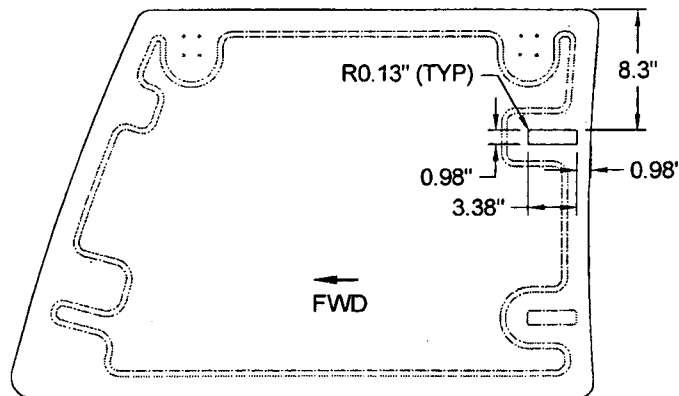


FIGURE 14(b) – D3186-2 SPACEPOD™ DOOR LATCH CUTOUT
(APPLICABLE FOR -042/-142 KITS)

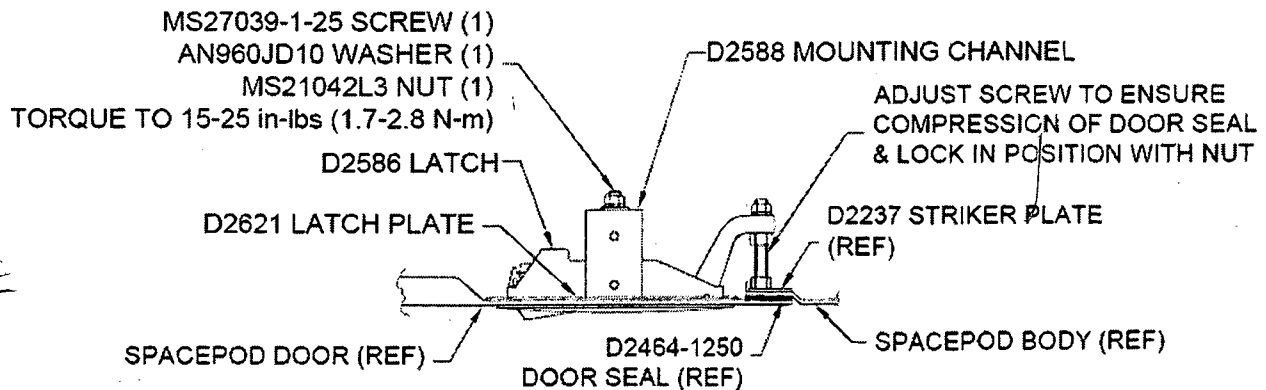


FIGURE 14(c) – LATCH INSTALLATION
(SHOWN WITH DOOR INSTALLED ON POD)

- 3.4.7 Position the D2857-1/-2 hinge brackets as shown in Figure 15(a) for the LH side and Figure 15(b) for the RH side. Transfer drill the $\varnothing 0.172$ " mounting holes on each bracket to the *Spacepod™* door. Install the hinge brackets as shown in Section J-J.

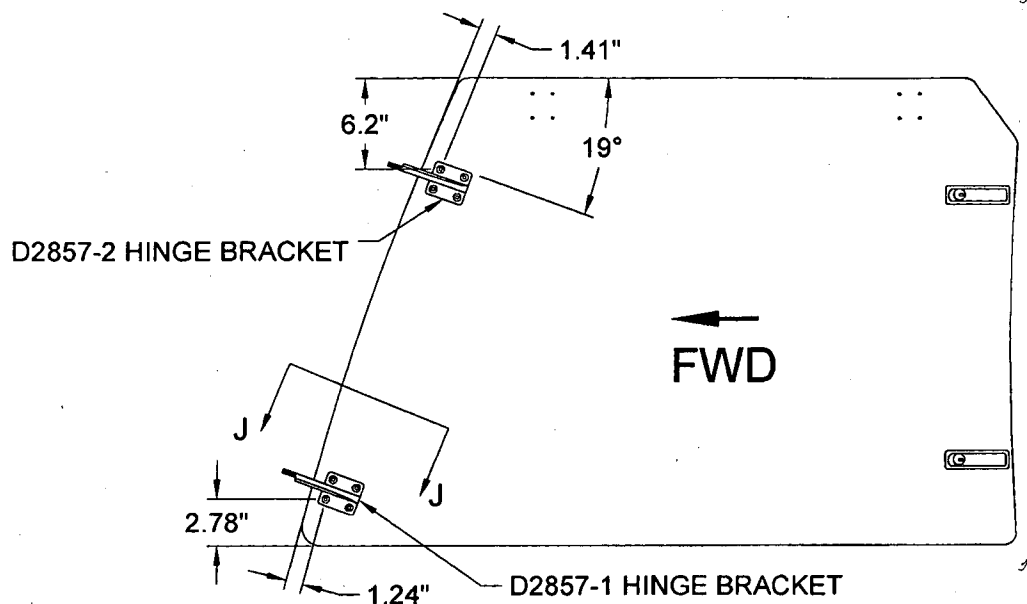


FIGURE 15(a) – HINGE BRACKET POSITION ON LH D3186-1 SPACEPOD™ DOOR

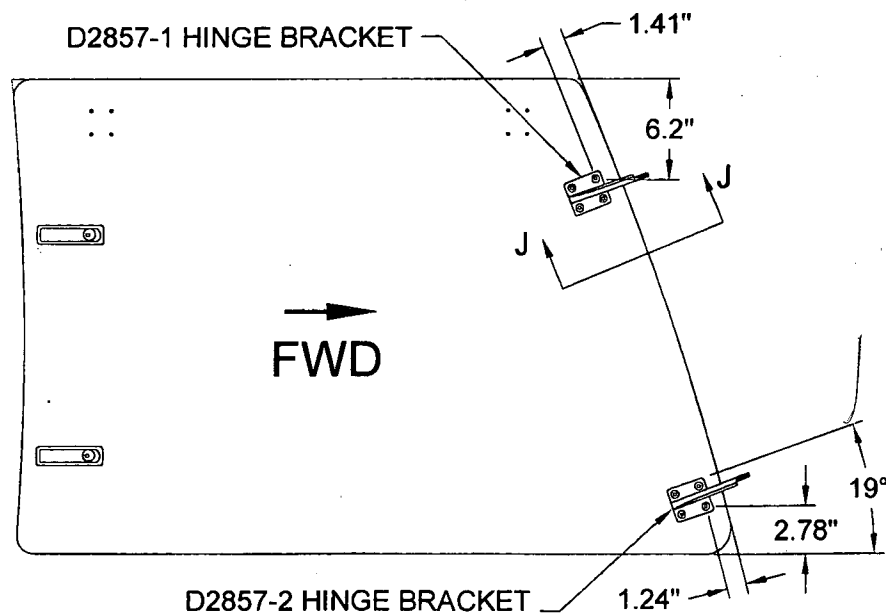


FIGURE 15(b) – HINGE BRACKET POSITION ON RH D3186-2 SPACEPOD™ DOOR

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Revision: **E**

Date: 09.07.31

Chris Provencal

From: David Shepherd <dshepherd@dartaero.com>
Sent: January 17, 2011 6:34 PM
To: 'Chris Provencal'
Cc: 'Mike Petsche'
Subject: RE: D350-600 Spacepod door deviation

Chris,

My recommendation would be to drop the hinge 0.5" lower.

Thanks,
David

From: Chris Provencal [mailto:cprovencal@dartaero.com]
Sent: Monday, January 17, 2011 11:29 AM
To: David Shepherd
Cc: Mike Petsche
Subject: D350-600 Spacepod door deviation

David,

They are reworking an old spacepod door to install an additional latch on the leading edge. If Ian cuts foam at the location specified (ref pg 17 on IIN), there will only be 1" of foam between the hinge and latch, while the drawing calls for 1.5" min. This is due to the cut-outs for the hinges, which were larger on old doors. We could add an additional layer of cloth on the inside to strengthen it.

If this is not acceptable, I could alternately have him install the latch 0.5" lower on the door.

Both scenarios decrease the strength of the door, so I don't have authority to accept either.

-Chris